

Devonian
of
New Mexico
1956

S. Cooper
A. L. Brooker, Dutro.

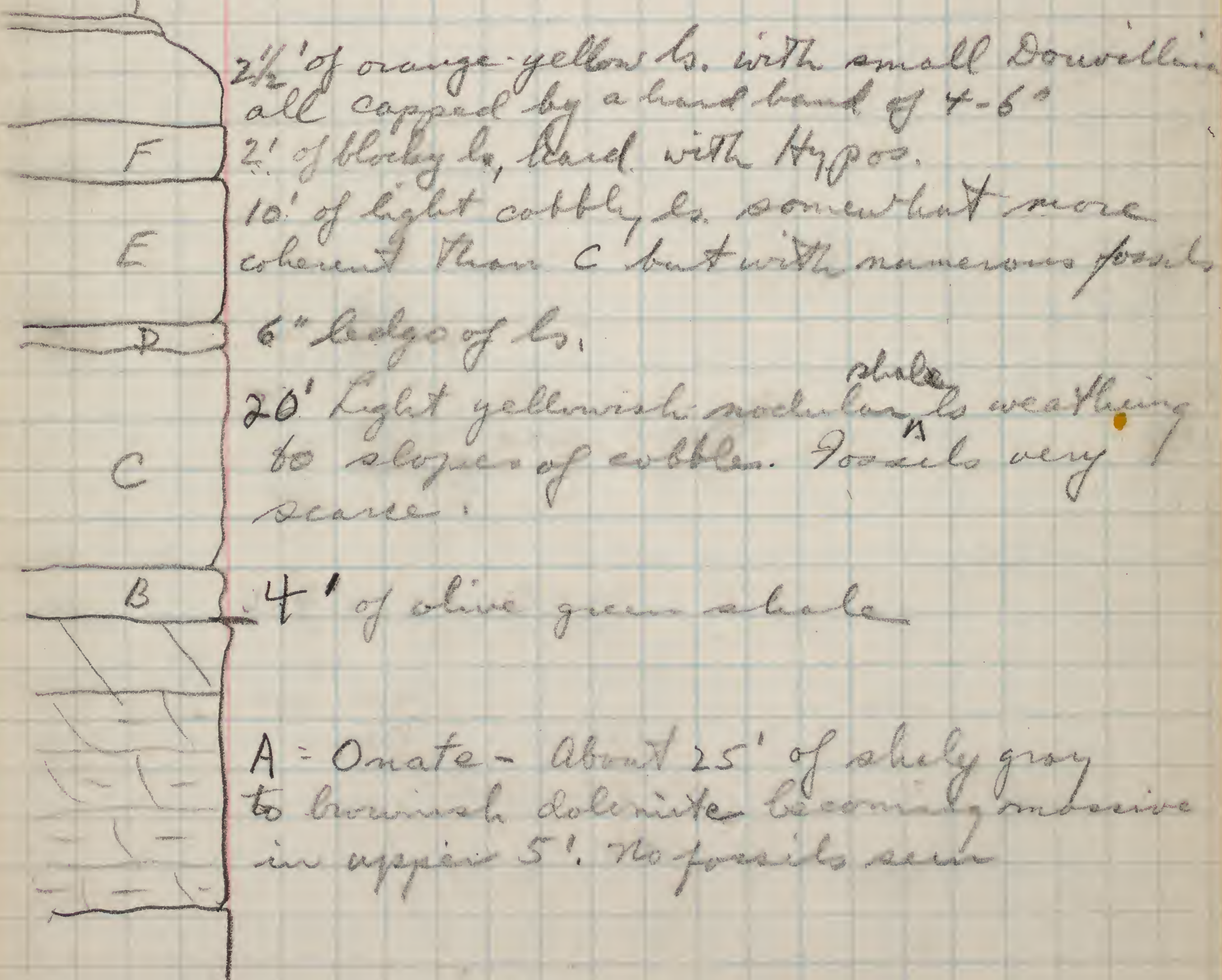
| | | |
|----------|---------------------|----|
| | Alamo Canyon | 26 |
| | Alamo Peak | 23 |
| San And | Ash Canyon | 16 |
| | Deadman Canyon | 13 |
| | Derry Hills | 10 |
| | Dog Canyon | 25 |
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| | Mule Canyon | 29 |
| | Pig Canyon | 20 |
| San Luis | Rhodes Canyon | 17 |
| | Rincon | 10 |
| | San Andres Canyon | 15 |
| | Vinton | 33 |

(9)

Sept. 16.
Indian Wells Canyon

Total 39'

Miss



(10)

Sept 22

Section NW of River Sec 1-185-3W.

The base of the section not clearly visible so lowest shale is uncertainly measured. The lowest beds are soft shale weathering pink or red, with large *Schizophoria*, *Martinioid* and *Atrypa*. This is overlain by 5 or 6' of thin-bedded sandstone with conodonts. Over this are two shales aggregating nearly 100' consisting of dark gray shale below with dark blue shale. This is overlain by blocky dirty fine sandstone with *Cyrtospira* and *Ambocoelia* in the lower part. This ss is overlain by 10 or 15' of red sandstone with *Saccharum*. Art thinks the red ss is Miss.

Section in Derry Hill.

No base known to section. Lowest beds are two or three bands of nodular ls. 3" thick separated by sh and having *Ambocoelia*. Overlain by 15'-20' of soft shale with *Martinioid* and large *Pugnoides*. This is overlain by 20-30' of black & dark green gray sh. Over this is 8-10' of floggy, soft brown weathering gray ss. Followed 2' of shaly beds. Top is 9' of thin-bedded blue gray ss with fish fragments. Over this is 2' of cobbly green shale with Pennsylvanian fossils.

(11)

Sept. 23
Mud Spring Mtns.

Penn.

| | | |
|---|-------------|---|
| L | | Cobbles Pa - 3' |
| K | 2-3' | Green gray shale |
| J | 9' | Olive green shale |
| I | 10' | Thomasiana nodular zone with short, wide <i>Atropa</i> , <i>Newostrophia</i> |
| H | 8' | Green shale |
| G | 2' | hard cobbly band - <i>Newostrophia</i> , <i>Douvillina</i> <i>Thomasiana</i> |
| F | 15' | Green shale with sparse calc. cobbles. |
| E | 7' | Green shale |
| D | 14' | Orange yellow nodular ls and thin yellow shale. <i>Schiz.</i> , <i>Atropa</i> , <i>Martini</i> about 3' below top |
| C | 15-20' ? | Soft shale with gypsum, <i>Pugnoides</i> , <i>Atropa</i> large light gray. <i>Sphaerospongia</i> at about top. |
| B | 7' | Shaly-weather ls with hard cobbly bands of ls. with <i>Ch. anosa</i> . Pink weathering gr. ls. |
| A | 2 1/2 - 5' | Dolomite, red weathering, lower 1/2' fractured to small pieces foss. |

ilthorax?

Galley

(12)

- B - On the exposure of B two specimens of *Hypothyridina* were found loose. These seemed to be nearly in place but may have come from F-I. Bed B suggests Tully and is Ambrosia beds of Derry.
- A - Poorly preserved brachiopods suggest *Leiorhynchus*.
- C - corresponds to the Pugnoides shale at Derry.
- D - The martinioid comes from near the top, about 3' below, with *Sclerophoria* and the large *Atypas*.
- C and D may correspond to Altona in terms of New York. These beds seem to be confined to Mud Springs, Derry & Caballo Mts.
- Beds E-I correspond to Sly Gaps of San Andres Mts. as exhibited at Sly Gaps & Rhodes Canyon.
- I - Cobbles at top appear to be same as cobbles of Penn. age of Derry Hills.

(13)

September 25
Sacramento Mtns.
Section in Deadman Canyon

cobbly Caballero

5'

black shale, layer of cobbles at top. 5'

10'

cobbly ls. 10'

2'

ls beds (3) top 9", middle 3", bottom 4"
with *Hypothyridina*, *Thomasina* = 2'

4'

shale 4'

5'

cobbly ls + shale 5' fossil *Thomasina*

4'

Dark shale 4'

5'

Shale with sparse cobbles, *Colmanina* 5'

12-15'

Covered 12-15' dark shale, few cobbles

40'±

About 40', dark shaly ls at base
O nate passing into shaly weathering
and massive, fine-grained
dolomite at top. Top 3' pinkish
and hard. Fossil common
6' below top. *Leiorhynchus*
common in lower half.

Ord.

Total Percha 47'

(14)

Section of Cobblers
Deadman Canyon

massive limestone

46'

Cobbly limestone, densely packed
cobbles, cobbles peppered with
crinoidal debris

5'

hard cobbly limestone forming a
prominent ledge.

40'

Cobbly limestone, cobbles
smooth, small productids,
and small Spirifers

Sly
Gap

(15)

Type section Oñate

N side San Andres Canyon near
lead mine.

| | | |
|-----|---|---|
| 15' | I | No fossils in these beds except <i>Martinia</i> at base. Hard gray dol., fine grained weathering red brown - top band 4' solid bed. |
| 12' | H | soft calc. shale with crinoid stems <i>Atrypa</i> , <i>Schizophoria</i> & large <i>Martinia</i> at top. |
| 1' | G | hard ls with <i>Leptostrophia</i> |
| 2' | F | shaly ls. crinoid stems |
| 4' | E | Hard brown ls in 2 massive ledges <i>Leptostrophia</i> |
| 9' | D | Shaly weathering ls with <i>Cystodictya</i> , <i>Atrypa</i> , <i>Leptostrophia</i> , <i>Productella</i> , <i>Schizophoria</i> |
| 13' | C | ash gray shale culminating in a 2' band, <i>Leptostrophia</i> , <i>C. aurora</i> , <i>Leiorhynchus</i> , <i>Cystodictya</i> |
| 8' | B | Hard dark blocky ls with interbedded dark shale big <i>Leiorhynchus</i> common |
| 25' | A | chunky light ash gray weathering ls in beds up to 4" thick <i>C. aurora</i> , <i>Echinocoelia</i> near top. |

(16)

Miss

Ash Canyon (North)

Sept. 28,

32'

Green shale

with *Rhipidomella*

Center NE 1/4 20-145-4E

48' green sh with small *Concarotsechia*

60'

42' band with *Spinifer*

20' - 3-forks fauna

Entire sequence
consists of shale, green,
red and dark gray to
black.

Post - Concarotsechia

10'

Hard cobbly blue ls with thin band
red sh 3' below top. Large *Concarotsechia*

10'

Hard blue cobbly ls. With 2' cobbly sh
at base

Concarotsechia

7'

Red crumbly shale.

35'

Cobbly shale with sly gap fauna

7 bands of cobbly hard ls. separated
by sh. 2 conspicuous bands 8-9" thick
at about 20 & 25'; These thinner
bands to top.

Sly Gap

12'

Soft shale with thin limy lenses near top

8'

Shaly with bands of hard silty dol ls. 4"-6" thick. *Spinifer*

12'

Mostly covered but indications of weathered
gray silty shale

3'

Dark shaly ls at base becoming reddish weathering dol
at top.

2'

Covered

"Montoya"

(17)

Rhodes Pass

Section about 1 mile west
of entrance to Rhodes Pass and
about 1/2 mile N of road
Sept. 30, 1956

P - Rhodes Canyon
L - O - Contadero
E - K - Sky Gap
A - D - Oñate

Mississippi

Green gray shale containing thin
platy sandstones up to 1" thick.

P

62'

Cleotrigidina

Rhodes Canyon

O

6' ss with, yellow gray to pink, with
phosphatic pebbles in a band 1" thick at base

N

9' hard, dark, nodular limestone
congl.

M

4' shaly and limy beds with Ambocoelia
Spinatrypa, Douvillina

(18)

See page above

M

limy flat beds with fossils

L

36' Shale, dark gray, alternating with layers of ss, at base 2 layers = 2' with 5" pink gray shale scattered above. About 20 layers of platy ss.

Confidens

Sly Gap

K

10' shale red at bottom becoming red-gray at top.

J

7' hard nodular ls. with Elythra, Pachyphyllum big Schizophoria

Nodular shale abounding in Atrypa 35' and the Sly Gap fauna

I

H

6' with 6" hard band, yellowish nodular shale

G

4' dark gray & black sh with 6" silty band at top

band of algae 4"

F

10' gray, light ^{nodular} shale somewhat calcareous large Schizophoria, large Atrypa ulamites in a hard gray to red layer 1/8" thick.

E

7' gray dark shale with Megac. capped by brownish siltstone 1 1/2'.

D

4 1/2' gray shale with 3' layers (1 1/2') siltstone (brown)

C

3 1/2' gray sh 1', siltstone 6", shale 1', siltstone 1'

B

2-3' Reddish dol. massive big oyster

A

Silty, thin-bedded dol with shaly fracture. To south consists of 10' about 30' of silty, flat-bedded dolomite with chert & a few fossils.

(19)

October 1

Johnson Park Canyon

Section thin and composed mostly of sandstone. In lowest 12-5' *Tropidoleptus*, snails, *Tentaculites* common. Snails & *Tentacs.* often in chert lenses in a thin bedded, red-brown sandstone. *Tropidoleptus* debris often wrapped around or on surface of chert lens.

25
5'
About 10' above base is a hard sandy bed with *Leptostrophia* and *Strophomena*. This may be top of Onate. *Spirifer* occur in lenses below the *Leptostrophia* in 5-10' above base. The *Spirifer* are commonest about 1-2' below a thin bedded ss about 5' above. A second *Spirifer* zone occurs about 2' above this ss.

2-5'
Just above the *Leptostrophia* bed comes punky lumpy ss with *Mcquea*. This ss is about 25' thick. Then 16' mostly covered but with lumpy sandstone. *Ambocoelia* came about 15' below top. The top beds are soft green shale with small crinoid segments.

(28)

Sacramento

October 3

First canyon N of Pig Canyon

Caballero

Cameroeceras
Atrypa in
top foot

1' hard yellow limestone
6 1/2' yellow sh with 6" band of siltstone (Big smooth Atrypa)
6' fine cobbly limestone few fossils
more bluish than below large smoothish Atrypa

3' Cobble gray limestone bluish few fossils (Solid bands)

1' yellow shale with smoothish Atrypa

4' hard cobbly ls few fossils

2' yellow shale

4' black shale

Small *Dorvillea* in top 2 feet

10' Cobble ls separated by yellow shale

Hypothyridina about 6' below top. Many algae-like nodules

1' black shale

3' Dark gray shale

20' Mostly greenish yellow shale with scattered nodules and scattered thin bands of dark shale - No fossils seen

Onate

11 layers of
ls. with algae
Hypothyridina about
2' from base
1' shale
9" limy band

(21)

Oriskany
15th Canyon N of Pig Canyon

Hard reddish massive dolomite.
8' No fossils Numerous horizontal
worm-tubes.

2' soft shaly rock

4' Massive hard ledge of dolomitic
rock.

16' Shaly & weathering, ash gray somewhat
leached limestone with *Leiorhynchus*,
Spinifer, *Rhipidomella*. Numerous
vertical furrows scattered in
upper half.

10' Dark leached shale passing into
dark lumpy rock with *Leiorhynchus*

Covered 5'±

(22)

Caballero

15th Canyon N of Pig Canyon

3' Fairly hard blue ls.

5 1/2' Cobbley ls., the cobbles separated by soft or hard calcareous shale.

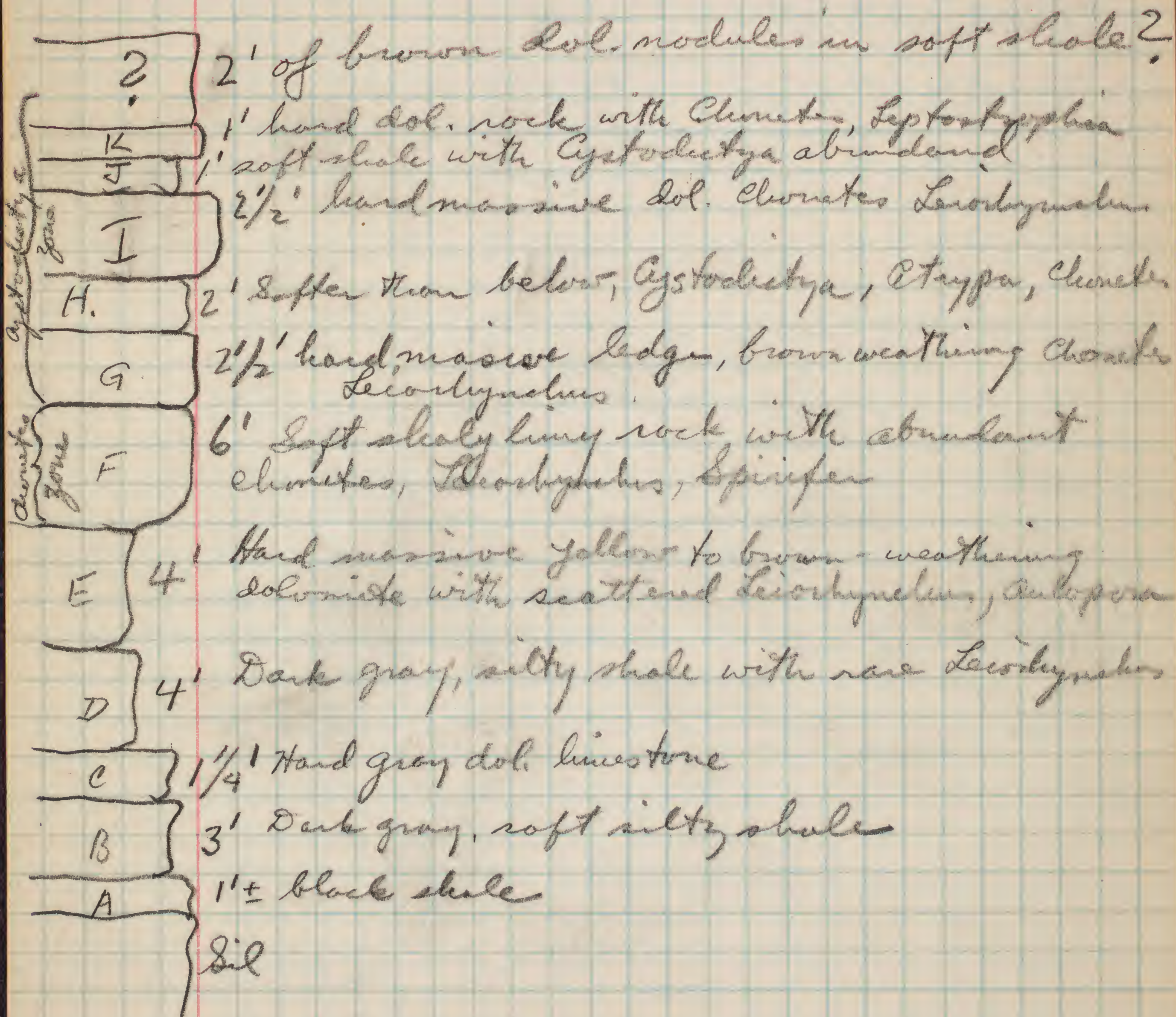
3' hard nodular ls.

4' Nodular limestone

Sly Gap

(23)

Oct. 5
Alamo Peak
Orate



(24)

Sly Gap - Alamo Peak

Total 29'

Caballero

1 1/2' shale, soft dark

1 1/2' limestone, hard, thick, algal. 3 layers 6" at bottom, 4" and 6"

2" shale

8" limestone in 3 layers, *Thomasina*
Hypothyridina in lowest bed

25' greenish shale, fine and friable
in thin flakes. Cobbley, cobbles few
in lower 10' becoming more abundant
above

Phosphate nodules
2' dark shale with large flat unfoss. ?
nodules. Also long rod-like "fossils" may
be *Onate* or nodules weather like *Onate*

Onate

25

Oct. 6
Dog Canyon
Ariz.

Caballero

6" black shale with cobbles like Caballero, fish remains,
phosphate nodules.

8-10' covered

2'

9"

9"

3'

1'

1/2'

1'

7'

Hard resistant in 2 beds, upper one with black
worm tubes, the surface of the lower one
pitted fragments of fish, phosphate
nodules

shaly weathering

Hard dol

Shaly weathering, big Schizophoria, Atrypa

Hard red weathering dol, resistant

Shaly weathering

Hard red weathering dolomite Atrypa, Leptostrophia
Productella

Hard shaly weathering dolomite, light gray

18'

Dolomite, shaly weathering at base becoming
harder and resistant at top. Atrypa,
Cyrtodictya scattered & rare

3'

3'

6'

Shaly weathering dol with Leiorhynchus

Covered

Porphyry sill

Fusselman

No sly Gap present

(26)

Oct. 7
Onate

Alamo Canyon
2 1/2 miles up from mouth
Onate

| | | | |
|---------|--|----|-----------|
| | Reddish dolomite | 1' | 1' |
| E 20 | Interbedded thin dolomite and dark shale with <i>Atrypa</i> and <i>fucoids</i> | | 20' |
| 2' | | | |
| D | Dol. shale with hard band in top 2' and another 3' below top band and one 4' below top. <i>Atrypa</i> <i>Leiorhynchus</i> + <i>Chonetes</i> | | 10' |
| C | Dolomite massive with <i>Leiorhynchus</i> | | 3' |
| B | Black shale with 2 dol beds of 4" 2' and 4' below top. | | 5' |
| A | Ss with chert and small pebbles | 1' | 1' |
| | | | <hr/> 40' |

Fusselman

27

Alamo Canyon

| | |
|-----------|--|
| Cobaltine | |
| M | 2" black sh., phosphate pebble |
| L | 3' green shale with $\frac{1}{2}$ ' x-bedded as in middle |
| K | 2' Hard silty limestone, greenish weathering red brown, big <i>Atrypa</i> . 2' |
| J | 8' gray cobbly shale, big <i>Atrypa</i> |
| I | 3' light gray limestone, cobbly |
| H | 3' black shale |
| G | 1' gray shale |
| F | 4' Cobbly limestone, hard |
| E | 1' green shale |
| D | 1' Consisting of 3 thin beds ls, top about 6" middle 2-3", bottom 1-2", with shale in between <i>Pygospio</i> , <i>Hypothyridina</i> , <i>Homoceras</i> |
| C | 3' green shale |
| B | 3' cobbly ls. with <i>Neurotrophia</i> , <i>Hypothyridina</i> |
| A | 22' of greenish crumbly shale with several thin layers of dark gray to black shale and layers of cobbles Manticoceras about 6' below top in a cobbly bed. |
| Oñate | |
| Total 54 | |

(28)

In a side gully bed L is missing
and limestone has a one-inch
sand with corundums on it just
under 6" of black shale with
phosphate.

29

Mule Canyon Oct. 8

Sill 514

Covered 3'

shale green 2'

shale & cobbles 1'

green sh 1'

limestone 3 bands { 7" 2" 2" } Hypo bed 1'

shale greenish & dark 4'

Cobbles 3'

Greenish shale with few thin
8' cobble bands and dark sh bands

cobbles 6"
2'

Cobbles 6"

3'

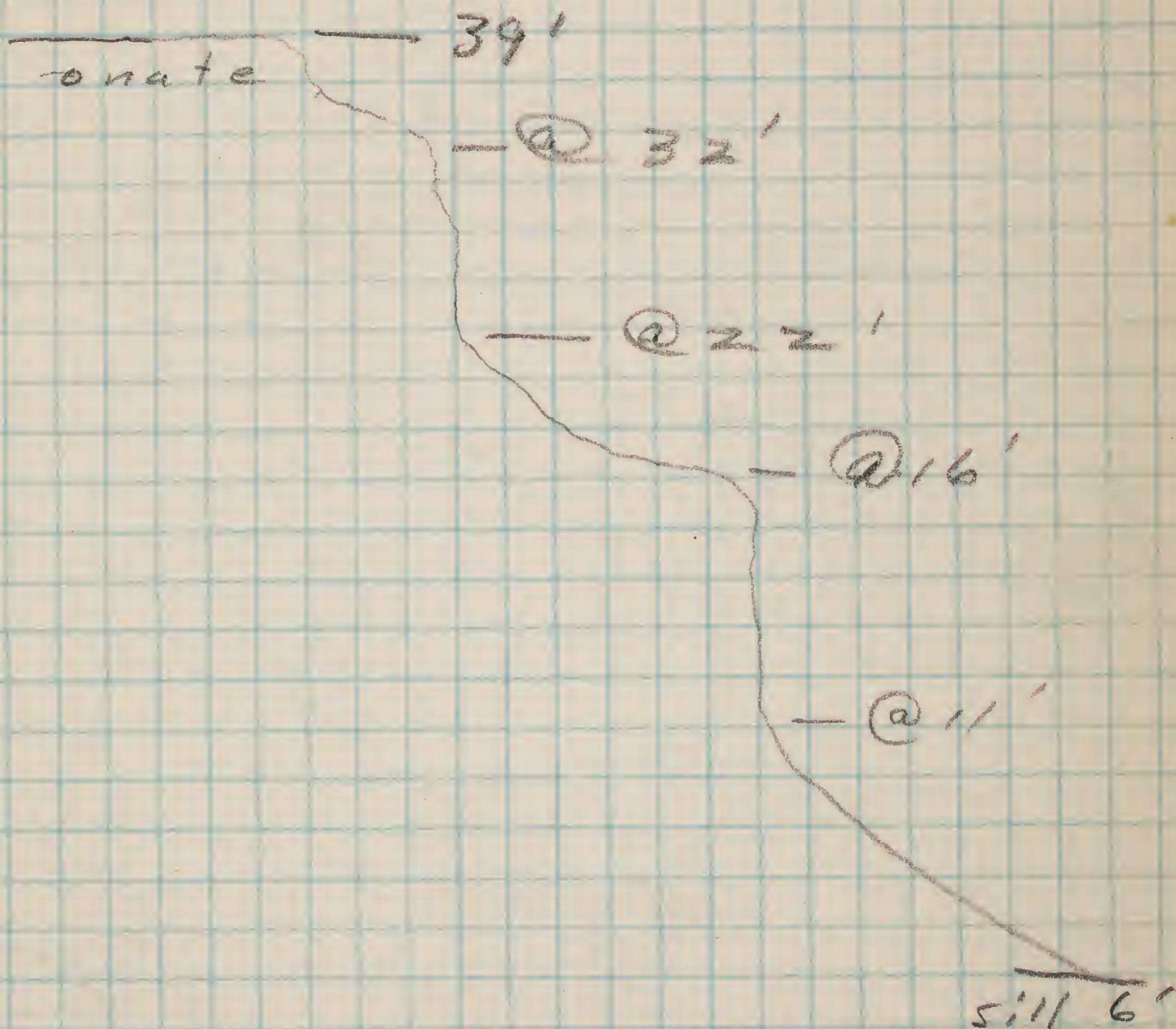
6" cobble

5' Greenish crumbly shale

Onate 39' { Chonetes & Leptæna

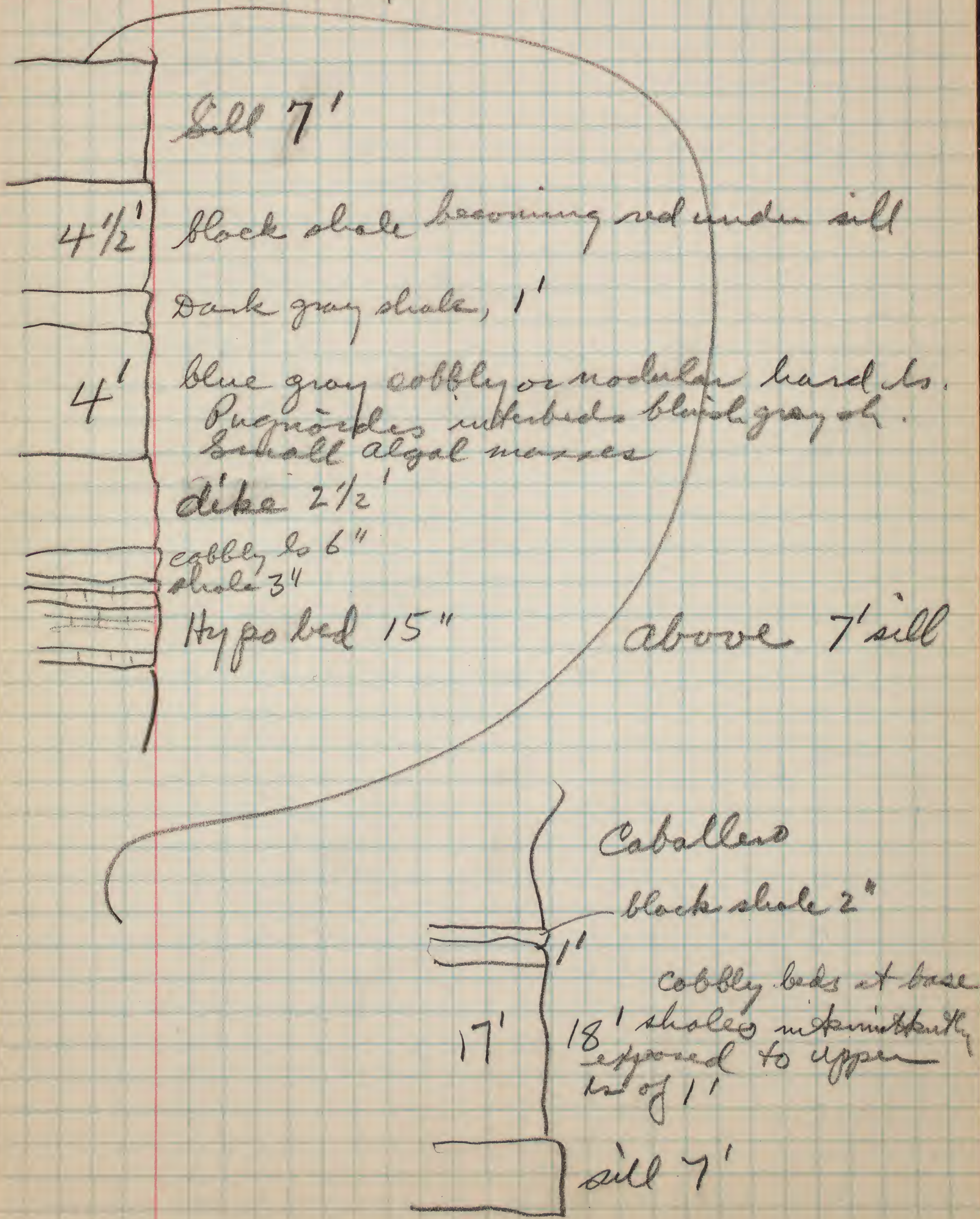
(30)

Wula Canyon
onate



(31)

Mule Canyon
Dully to north.



(32)

Mule Canyon
Caballero

48' cobbly ls.

2 1/2'

9' cobbly ls.

Sly Gap

(33)

5 mi. E of Vinton
October 9.

Canukelo fm.

Black
shale
60-70'

4½' black limestone weathering to
orange brown color

20-25' Thin bedded shaly to platy
limestone and dark gray to black
shale. Solider bands of 2-3" thick
often with fossils. *Chonetes*, *Styliolina*,
Leontopneustes, *Schizobolus*, *Orthis*
Bottom with black chert lenses.

Gray dolomite with chert lenses,
thick at top. Fossils 2' below top.

Collected Parsha

H. Bridge

1970

Cooper Island & Princeton 1970

11

11

February 1974